



Department of Pesticide Regulation



Brian R. Leahy
Director

MEMORANDUM

Edmund G. Brown Jr.
Governor

TO: Robert Ford, CIH, CSP **HSM-17006**
 Environmental Program Manager I (No. assigned after issuance of memo)
 Worker Health and Safety Branch

FROM: Harvard R. Fong, CIH [Original signed by H. Fong]
 Senior Industrial Hygienist
 Worker Health and Safety Branch
 (916) 445-4211

DATE: July 21, 2017

SUBJECT: RECOMMENDATIONS CONCERNING THE CONSTRUCTION OF A
 FUMIGATION CHAMBER AT A PROCESSING FACILITY IN
 STANISLAUS COUNTY

On July 17th Associate Industrial Hygienist Emma Wilson and I traveled to Stanislaus County to consult on a proposed fumigation chamber to be built on the property of Patterson Nut. This facility is located in Patterson, California. At the site were a representative of the facility, and two members of the Stanislaus County Agricultural Commissioner’s (CAC) office.

The issue under consideration was the construction of a new fumigation chamber adjacent to an existing fumigation chamber. Figure One shows the site layout and the location of both the existing chamber and the proposed site of the new chamber. There is another existing chamber (marked as “Chamber #1” on the site layout map), but it is not involved with any issues of the proposed new chamber.

The existing chamber (marked as “2” and highlighted in blue on the site layout map) has been fully permitted by Stanislaus CAC. The proposed chamber (highlighted in orange on the site layout map) would be under the same pole barn as Chamber 2 and would essentially be a duplicate of Chamber 2. Our walk-around of Chamber 2 did not uncover any obvious issues that were non-compliant with the Department of Pesticide Regulation’s “Suggested Permit Conditions: Methyl Bromide Commodity Fumigation 1994” (“MBr Permit Conditions”) document.

Chamber 2 is a wooden structure that has a roll-down tarpaulin door (See Figure Two, note all photo date stamps are in error). It is classified as a “B1 Retention Tested/Standard Stack” chamber. During fumigation, the tarp is rolled down the face of the chamber, secured to the chamber with bolted-down wooden pressure bars and sealed on the floor with loose sand piled on the tarpaulin. It does not have an enclosed control room. It uses a recirculation fan system to keep the fumigant dispersed within the chamber. Aeration is performed by activating the aeration fan, which draws the tarp door inwards, then removing the sand and rolling up the tarp by about 1 foot to allow clean make-up air to flow into the chamber. A secondary louvered opening on the side is also opened to allow further make-up air in during aeration.

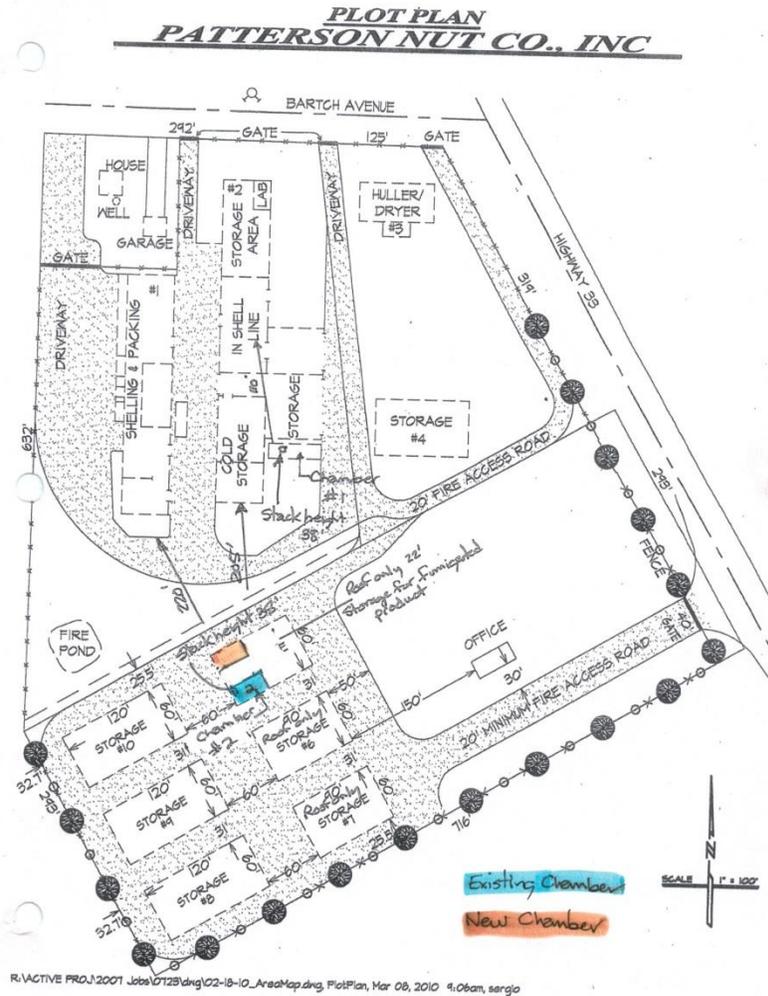


Figure One: Site Layout. Orange: New Chamber, Blue: Existing Chamber

The chamber is situated in a pole barn which allows air circulation around the chamber. The chamber is not within an enclosed space as defined in the MBr Permit Conditions document. There is sufficient space around the site for adequate buffer zones for both the existing chamber and the proposed chamber. I would suggest posting warning signs at the edges of the respective fumigation and aeration buffer zones to provide a clear demarcation of the buffer zones. These can be A-frame signs, stand-alone sign posts, permanent painted markings on the surrounding blacktop, etc.



Figure Two: Tarp door on Chamber 2



Figure Three: Pole barn screens

If the proposed chamber is a duplicate of the existing chamber, I do not see any particular issues that would be in overt non-compliance with the MBr Permit Conditions document. Stanislaus

Robert Ford, CIH, CSP
July 21, 2017
Page 4

CAC's review of the situation was very comprehensive and I trust that their ultimate review and permitting of the new chamber will be equally superlative.

On a related issue, the methyl bromide cylinder storage structure is an intermodal trailer. There were several methyl bromide cylinders in the unit. Though equipped with some basic passive venting (see Figure Four for vent on the rear of the unit) there did not appear to be any active mechanical venting system. In that the methyl bromide used for commodity fumigation is 100% methyl bromide with no chloropicrin warning agent, and that methyl bromide has no odor, I would advise at a bare minimum that the air within the intermodal be tested with a colorimetric detector (i.e. Draeger, Sensidyne, Kitagawa, etc.) before anyone is allowed to enter. The addition of an active mechanical ventilation system, to be activated early enough to allow 10 air exchanges within the intermodal before entry, would provide superior safety conditions for persons entering the intermodal.



Figure Four: Passive vent on left for methyl bromide storage unit

cc: Kelle Schroeder, Deputy Agricultural Commissioner, Stanislaus County
Louie Guerra, Senior Environmental Scientist, Enforcement Branch, CRO
Emma Wilson, Associate Industrial Hygienist, Worker Health and Safety Branch